

Notice of Allowability

Application No.

10/749,297

Examiner

Dang T. Nguyen

Applicant(s)

AHN ET AL.

Art Unit

2824

mu

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed on March 2, 2006.
2. ☒ The allowed claim(s) is/are 1 and 4-34.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other Search history.

Tuan T. Nguyen 4/13/06

TUAN T. NGUYEN
PRIMARY EXAMINER

Response to Amendment

1. This office action is in response to applicant's amendment received on 3/2/06.
2. Claims 1, 4, 5, 9, 10, 15, 18, 19, 24, 25, 27, 28 and 31 have been amended.
Claims 2 - 3 have been cancelled. Claim 34 has been added. Claims 1 and 4 - 34 are pending on this application. Claims 1, 28 and 31 are independent claims.

Allowable Subject Matter

3. Claims 1 and 4 - 34 are allowed.
4. The following is an examiner's statement of reasons for allowance:

With respect to claim 1, the method for operating a non-volatile dynamic random access memory (NVDRAM) device including a plurality of memory cells, each cell having a capacitor and a transistor having a floating gate as claimed, in combination with other limitations, comprising: "preparing a power-on mode for performing a DRAM operation by controlling a threshold voltage of the transistor; and wherein the preparing the power-on mode includes: backing up the stored data in the capacitor before the controlling the threshold voltage of the transistor" is not disclosed, suggested, or rendered obvious by the prior art of record.

With respect to claim 28, the non-volatile dynamic random access memory (NVDRAM) device including a plurality of memory cells in a matrix, each memory cell as claimed comprising wherein at least the limitation of "when preparing for power-on mode the data stored in the transistor is moved to the capacitor and captured data in

Art Unit: 2824

the capacitor is backed up before the threshold voltage of the transistor is controlled" is not disclosed, suggested, or rendered obvious by the prior art of record.

With respect to claim 31, the non-volatile dynamic random access memory (NVD RAM) including a plurality of memory cells in a matrix, each memory cell includes wherein at least the limitation of "when preparing for power-on mode, the data stored in the floating transistor is moved to the capacitor and captured data in the capacitor is backed up before the threshold voltage of the floating transistor is controlled" is not disclosed, suggested, or rendered obvious by the prior art of record.

5. The prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Forbes, taken individually or in combination, do not teach the claimed invention of backing up the stored data in the capacitor before the controlling the threshold voltage of the transistor, in combination with other limitations.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Prior art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Forbes

Patent No. US 6,674,667 B2

Date of Patent: Jan. 6, 2004

Contact Information

8. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (571) 272-1955. Normal contact times are M-F, 8:00 AM - 4:30 PM.

Upon an unsuccessful attempt to contact the examiner, the examiner's supervisor, Richard Elms, may be reached at (571) 272-1869.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900. The faxed phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the Status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or EBC@uspto.gov.

Dang Nguyen 4/7/2006

Application/Control Number: 10/749,297

Page 5

Art Unit: 2824


4/13/06

TUAN T. NGUYEN
PRIMARY EXAMINER